1. (Thrice amended) A method for simultaneous screening for one or more gene insertion mutants in a population of any organism comprising:

preparing an insertion element mutant library comprising a plurality of nucleic acid insertion elements and insertion element flanking sequences, said insertion element flanking sequences originating from a defined population of an organism wherein said gene insertion mutants are to be detected and wherein said insertion element library is built in a 3D-array of block, row and column pools;

amplifying said insertion element flanking sequences from said block, row and column pools using at least one primer derived from a sequence of a nucleic acid insertion element of said plurality of nucleic acid insertion elements; and

fixing a set of nucleic acid amplification products representing said insertion element flanking sequences derived from said block, row and column pools to a solid support as target for hybridization.

2. (Thrice amended) The method according to claim 1 wherein the set of nucleic acid amplification products representing said element flanking sequences representing said block, row and column pools are obtained by iPCR using at least one primer or a set of primers based on a sequence of at least one nucleic acid insertion element.

3. (Twice Amended) The method according to claim 2 wherein said iPCR comprises:

digesting nucleic acid sequences of said block, row and column pools with at least one restriction enzyme resulting in a collection of amplifyable genomic fragments;

ligating at least one amplifyable genomic fragment by self ligation; and

amplifying said at least one amplifyable genomic fragment using a set of internal primers.

5. (Twice Amended) The method according to claim 1 wherein amplifying insertion element flanking sequences from said insertion element mutant library built in the 3D-array of block, row and column pools comprises amplifying said insertion element flanking sequences using transposon display amplification.

Sub B1

19. (Twice Amended) A method for simultaneous screening for one or more gene insertion mutants in a population of any organism comprising:

preparing an insertion element mutant library comprising a plurality of nucleic acid insertion elements and insertion element flanking sequences, said insertion element flanking sequences originating from a defined population of an organism wherein said gene insertion mutants are to be detected and wherein said insertion element library is built in a 3D-array of block, row and column pools;

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amplifying said insertion element flanking sequences from said insertion element mutant library using at least one primer derived from a sequence of a nucleic acid insertion element of said plurality of nucleic acid insertion elements; and

producing a set of labelled amplification products representing said insertion element flanking sequences derived from said block, row and column pools to use as probes to hybridize to a solid support to which one or more nucleic acids have been fixed as target(s) for hybridisation.

Please add the following new claims:

21. (New) A kit for performing the method of claim 19 comprising DNA samples of an insertion element mutant library.

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Sub D2

22. (New) The method according to claim 1 wherein the organism is a cell line.